



Vastu/SBI/SME/03/2024/7875/ 2305818
Date: 29-03-2024

CHARTERED ENGINEER'S CERTIFICATE FOR THE USEFUL LIFE OF ASSETS

To,
Aditya Birla Renewables Ltd. (including its Subsidiaries)
Birla Aurora, 11th Floor
Dr. Annie Besant Road
Worli, Mumbai 400 030.

Sub: Useful Life of Assets

Dear Sir,

With reference to our opinion on Useful life of assets for M/s. Aditya Birla Renewables Ltd. and its subsidiaries which is engaged in renewable power business we submit as below :

Definition of Useful Life of Assets: -

Useful Life is either the period over which a depreciable asset is expected to be used by the enterprise or the number of production or similar units expected to be obtained from the use of the asset by the enterprise. 'Depreciable amount' of a depreciable asset is its historical cost or other amount substituted for historical cost in the financial statements less the estimated residual value.

The Useful life of Wind Turbine Generator, Solar Module and Fulsar Substation for Grid Connectivity is as under: -



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1) Wind Turbine Generator: -

A new paper titled “Benchmarking Anticipated Wind Project Lifetimes: Results from a Survey of U.S. Wind Industry Professionals” was published by Ryan Wisser and Mark Bolinger of the Lawrence Berkeley National Laboratory. The authors said the paper is based on a survey of wind industry experts to clarify trends in the expected useful life of land-based wind power plants in the United States. It follows from a related survey earlier this year on wind-project operational expenditures.

The expected useful life of a project is the period of time in which expected costs and revenues are assessed to determine a project’s economic viability. A longer assumed life may enhance the expected long-term profitability of a project, assuming any resulting increase in O&M costs is kept within reasonable bounds. Moreover, longer depreciation terms reduce annual book depreciation from an accounting perspective, thereby boosting net income in the near term. From a planning and modeling perspective, longer lifetimes may enable a lower levelized cost of wind energy by recovering capital costs over additional years of electricity production.



September 2019

Benchmarking Anticipated Wind Project Lifetimes: Results from a Survey of U.S. Wind Industry Professionals

Ryan Wisser and Mark Bolinger, Lawrence Berkeley National Laboratory

This paper draws on a survey of wind industry professionals to clarify trends in the expected useful life of land-based wind power plants in the United States. The expected useful life of a project affects expectations about its profitability, the timing of possible decommissioning or repowering, and its levelized costs.

We find that most wind project developers, sponsors and long-term owners have increased project-life assumptions over time, from a typical term of ~20 years in the early 2000s to ~25 years by the mid-2010s and ~30 years more recently. Current assumptions range from 25 to 40 years, with an average of 29.6 years.

The estimated average levelized cost of energy (LCOE) for new wind projects built in 2018 is \$40.4/MWh (real 2018\$), assuming a 20-year project life. With a 25-year useful life and no change in assumed operations and maintenance (O&M) expenditures or wind plant performance over time, LCOE declines by 10%, to \$36.2/MWh, because capital costs are recovered over five additional years of production. At the now-common 30-year assumed life, levelized costs decrease another 7%, to \$33.5/MWh (under the same unaltered assumptions about O&M and performance). Even longer assumed lifetimes lead to further (but diminishing) LCOE reductions—e.g., to \$31.7/MWh and \$30.3/MWh for 35- and 40-year lives, respectively.

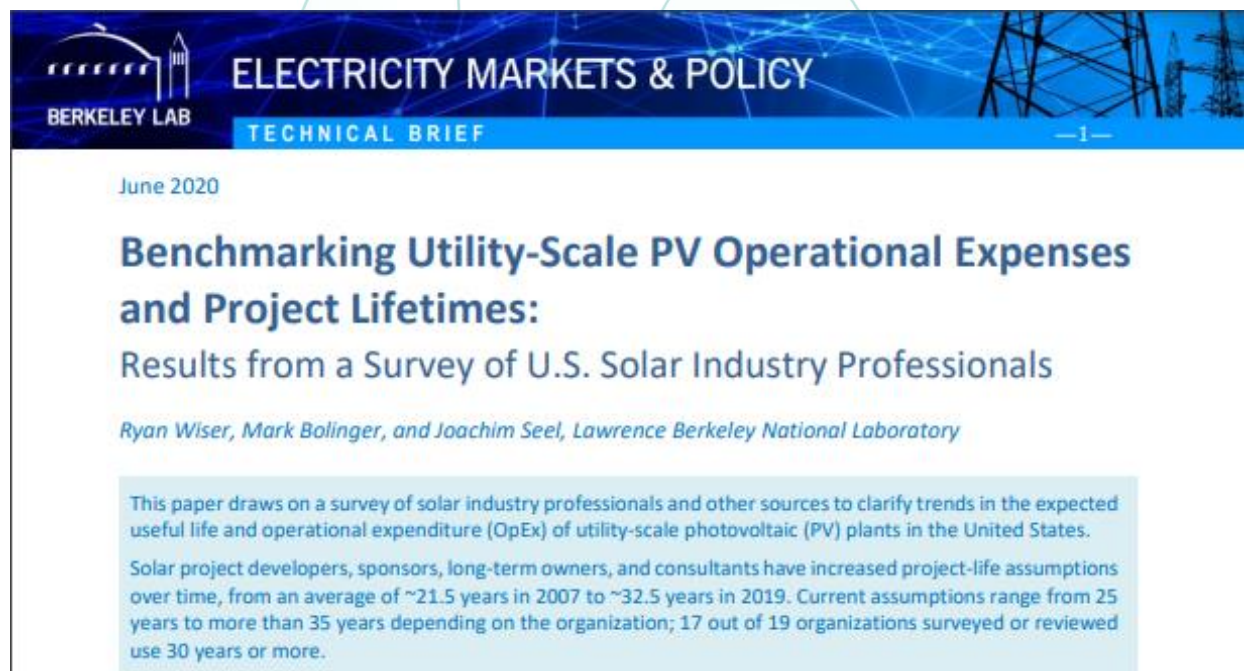
The data and trends presented here may inform assumptions used by electric system planners, modelers and analysts. The results may also provide useful benchmarks to the wind industry, helping developers and assets owners to compare their expectations with those of their peers.

Wisser and Bolinger said their interest was in better understanding how expectations for useful life have changed over time, as the wind industry has matured. They found that most wind project developers, sponsors and long-term owners have increased project-life assumptions, from a typical term of ~20 years in the early 2000s to ~25 years by the mid-2010s and ~30 years more recently. Current assumptions range from 25 to 40 years, with most respondents citing 25 years

2) Solar Module: -

As per Ryan Wiser, Mark Bolinger, and Joachim Seel, Lawrence Berkeley National Laboratory the Useful Life of Solar Module is as under:-

Solar project developers, sponsors, long-term owners, and consultants have increased project-life assumptions over time, from an average of ~21.5 years in 2007 to ~32.5 years in 2019. Current assumptions range from 25 years to more than 35 years depending on the organization; 17 out of 19 organizations surveyed or reviewed use 30 years or more.



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3) Fulsar Substation for Grid Connectivity: -

As Per notification from Central Electricity Regulatory Commission New Delhi vide Letter No. L-1/236/2018/CERC dated 07.03.2019, the useful life is as under:-

(73) 'Useful Life' in relation to a unit of a generating station, integrated mines, transmission system and communication system from the date of commercial operation shall mean the following:

(a)	Coal/Lignite based thermal generating station	25 years
(b)	Gas/Liquid fuel based thermal generating station	25 years
(c)	AC and DC sub-station	25 years
(d)	Gas Insulated Substation (GIS)	25 years
(e)	Hydro generating station including pumped storage hydro generating stations	40 years
(f)	Transmission line (including HVAC & HVDC)	35 years
(g)	Communication system	15 years

Based on CERC notification the useful life of Substation is 25 years.

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SUMMARY: -

Based above mentioned research paper/Notification and our data base and experience we are at opinion that the useful Life as follows: -

S. No.	Description Of Asset	Total Useful Life (Yrs)
1	Wind Turbine Generator	25 Years
2	Solar Module	® 30 Years
3	Fulsar Substation for Grid Connectivity	25 Years

We have certified the Useful Life of Assets is fair and reasonable as per industrial trend and our database and knowledge.

We further declare that: --

- 1) In the preparation of the CE Certificate, we have relied on the information provided by the client.
- 2) The information furnished in this Certificate is true and correct to the best of our knowledge and belief.
- 3) We have no direct or indirect interest in the Unit.

Date: - 29-03-2024

Place: - Mumbai

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For Vastukala Consultants (I) Pvt. Ltd.

Umang Ashwin Patel

Regd. Valuer

Chartered Engineer (India)

Reg. No. IBB/RV/04/2019/10803